

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 – EXPEDITED PROCEDURE

Serial Number: 10/053003

Filing Date: January 17, 2002

Title: THREE-DIMENSIONAL COMPLETE BANDGAP PHOTONIC CRYSTAL FORMED BY CRYSTAL MODIFICATION

Page 3
Dkt: 1303.042US1

IN THE CLAIMS

Please amend the claims as follows.

1. (Currently Amended) A complete bandgap 3D photonic crystal, comprising:
 - a first periodic array of unit cells formed in a substrate from first voids connected by imaginary bonds, wherein the first voids are distinct from each other, and wherein the first periodic array alone forms an incomplete bandgap; and
 - a second periodic array of second voids, wherein the second voids are distinct from each other and from the first voids, wherein each second void is arranged along one of the imaginary bonds so as to modify each unit cell to form a complete photonic bandgap.
2. (Original) The photonic crystal of claim 1, wherein the unit cell is a diamond unit cell.
3. (Original) The photonic crystal of claim 1, wherein the first voids are spherical.
4. (Original) The photonic crystal of claim 3, wherein the second voids are spherical.
5. (Original) The photonic crystal of claim 4, wherein the first and second voids are substantially the same size.
6. (Original) The photonic crystal of claim 1, wherein a single second void is arranged halfway between the first voids in the unit cell.
7. (Original) The photonic crystal of claim 1, wherein two or more of the second spherical voids lie along each imaginary bond.